ABSTRACT OF THE DISCLOSURE

In one aspect the invention provides methods for cloning polymerase chain reaction (PCR) products without the need for restriction enzymes, ligation enzymes, or DNA purification steps. According to these methods, a PCR product is transferred into a vector *in vivo* using a site-specific recombination system. In some embodiments, the methods include the steps of (1) providing a PCR product flanked by a first site-specific recombination site and a second site-specific recombination site; and (2) transferring the PCR product into a cell comprising a target sequence flanked by a first recombination site partner and a second recombination site partner, and at least one recombination protein that mediates recombination between the first site-specific recombination site and the first recombination site partner, and between the second site-specific recombination site and the second recombination site partner.